



UNIVERSIDAD DE EXTREMADURA



Del Open Access al Open Data: retos, políticas e iniciativas

Prof. Dr. Eva Méndez @evamen



Universidad
Carlos III de Madrid

Cáceres, 25 Octubre 2016

... de qué voy a hablar

- OA a OS:
De la canción de campamento a la voluntad política internacional
- Retos (muchos)
- Políticas (EC, OSPP)
- Iniciativas (algunas: RD-Alliance, Maredata)



Open Science

Un contexto

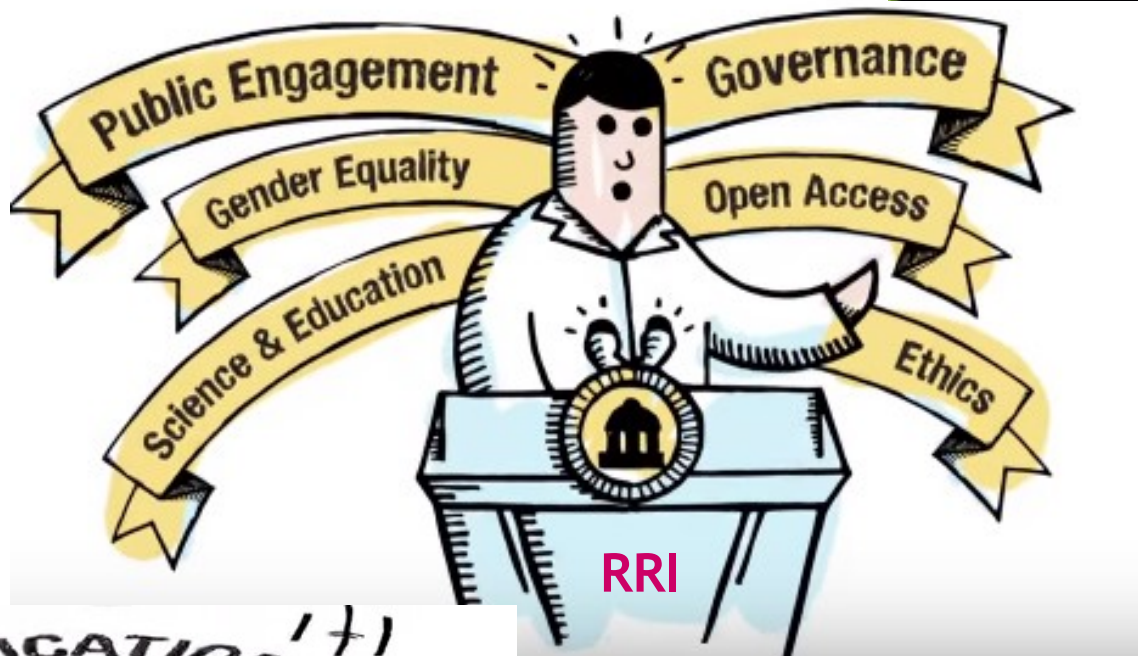
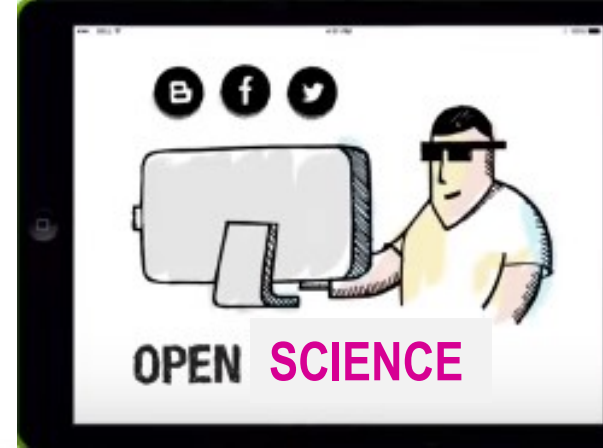


THE RIGHT TO SCIENCE AND CULTURE

LEA SHAVER*

The Universal Declaration of Human Rights states: “Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.” This Article





... Where openness and transparency are an integral component of the research and innovation process

No sólo acceso abierto (OA) a publicaciones
 No sólo un piloto de datos → todos los proyectos,
 desde Enero 2017



Open Science en

FD020 Annotated Model Grant Agreement: General MGA, April 2014

ARTICLE 29 – DISSEMINATION OF RESULTS – OPEN ACCESS – VISIBILITY OF EU FUNDING

29.1 General obligation to disseminate results

Unless it goes against their legitimate interests, each beneficiary must – as soon as possible – ‘disseminate’ its results by disclosing them to the public by appropriate means other than those resulting from protecting or exploiting the results, including in scientific publications (in any medium).

OPTION for addition
 beneficiaries must comply with the following:

OPTION for addition
 Moreover, the beneficiary must also comply with the following technical specifications:

OPTION for addition
 programs: Moreover, the beneficiary must also disseminate the deliverables cross-border intranet.

This does not change if the security obligations still apply.

A beneficiary that intends to disseminate its results must, unless agreed otherwise, disseminate:

Any other beneficiary can show that its legitimate interests in such cases, the dissemination of its results is in its legitimate interests.

If a beneficiary intends to formally notify the host institution, it must:

29.2 Open access to research data

Each beneficiary must ensure open access to its scientific publications and research data. In particular, it must:

(a) as soon as possible, publish its scientific publications in an open access journal or repository;

Moreover, the beneficiary must ensure open access to its research data:

(i) on a public website;

(ii) within a digital repository.

FD020 Annotated Model Grant Agreement: General MGA, April 2014

(c) ensure open access – via the repository – to the bibliographic metadata that identify the deposited publication.

The bibliographic metadata must:

- the terms / Europe and training programs
- the name of the action
- the publication date
- a persistent identifier

29.3 Open access to research data

OPTION for addition
 generated in the action (‘data’), the beneficiary must ensure open access to the data, including publications as soon as possible.

(i) the data, including publications as soon as possible;

(ii) other data, including the ‘data management plan’.

(b) provide information – via the repository and necessary instruments themselves.

This does not change the obligation to disseminate the results in any form, including electronic form.

As an exception, the beneficiary does not have to disseminate specific parts of the research data or results (for example, security-related information).

OPTION: not applicable

29.4 Information on EU funding

Unless the [Commission/Agency] requests otherwise in any form, including electronic form, the beneficiary must:

(a) display the EU emblem and the logo of the [Commission/Agency] on the project website;

(b) include the following text: ‘This project has received funding from the European Union under the Horizon 2020 research and innovation programme.’

When displayed together with another logo, the EU emblem and the logo of the [Commission/Agency] must be displayed in a way that is clearly visible and not obscured.

For the purposes of their obligations to disseminate their results, the beneficiary must also ensure that the information is available to the public in a way that is easily accessible and that it is not obscured by other information.

FD020 Annotated Model Grant Agreement: General MGA, April 2014

This does not however give them the right to exclusive use.

Moreover, they may not appropriate the EU emblem or any similar trademark or logo, either by registration or by any other means.

29.5 Disclaimer excluding [Commission/Agency] responsibility

Any dissemination of results must indicate that it reflects only the author’s view and that the [Commission/Agency] is not responsible for any use that may be made of the information it contains.

29.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43). Such a breach may also lead to any of the other measures described in Chapter 6.

1. Dissemination of results

The beneficiary must – as soon as possible (but not before a decision on their possible protection) – disseminate their results (i.e. make them public).

Disclosing results of activities raising security issues requires prior approval from the Commission/Agency (see Article 37).

Results that are disclosed too early (i.e. before the decision on their protection) run the risk of being invalidated.

Example: If a result is disclosed (in writing (including by e-mail) or orally (e.g. at a conference) prior to filing for protection – even in a single person who is not bound by secrecy or confidentiality obligations (typically someone from an organisation outside the consortium).

No dissemination at all may take place, if:

- the results need to be protected as a trade secret (i.e. confidential know-how) or
- dissemination conflicts with any other obligations under the GA (e.g. personal data protection, security-related obligations, etc).

The beneficiaries may choose how they would like to disseminate their results.

Classic forms of dissemination:

- Website
- Presentation at a scientific conference
- Peer reviewed publication

The dissemination measures should however be consistent with the ‘plan for the exploitation and dissemination of the results’ and proportionate to the impact expected from the action.

If the GA provides for additional dissemination obligations, these must also be fulfilled. Such additional dissemination obligations will already be mentioned in the Work Programme.

“Each beneficiary must ensure open access to all peer-reviewed scientific publications”

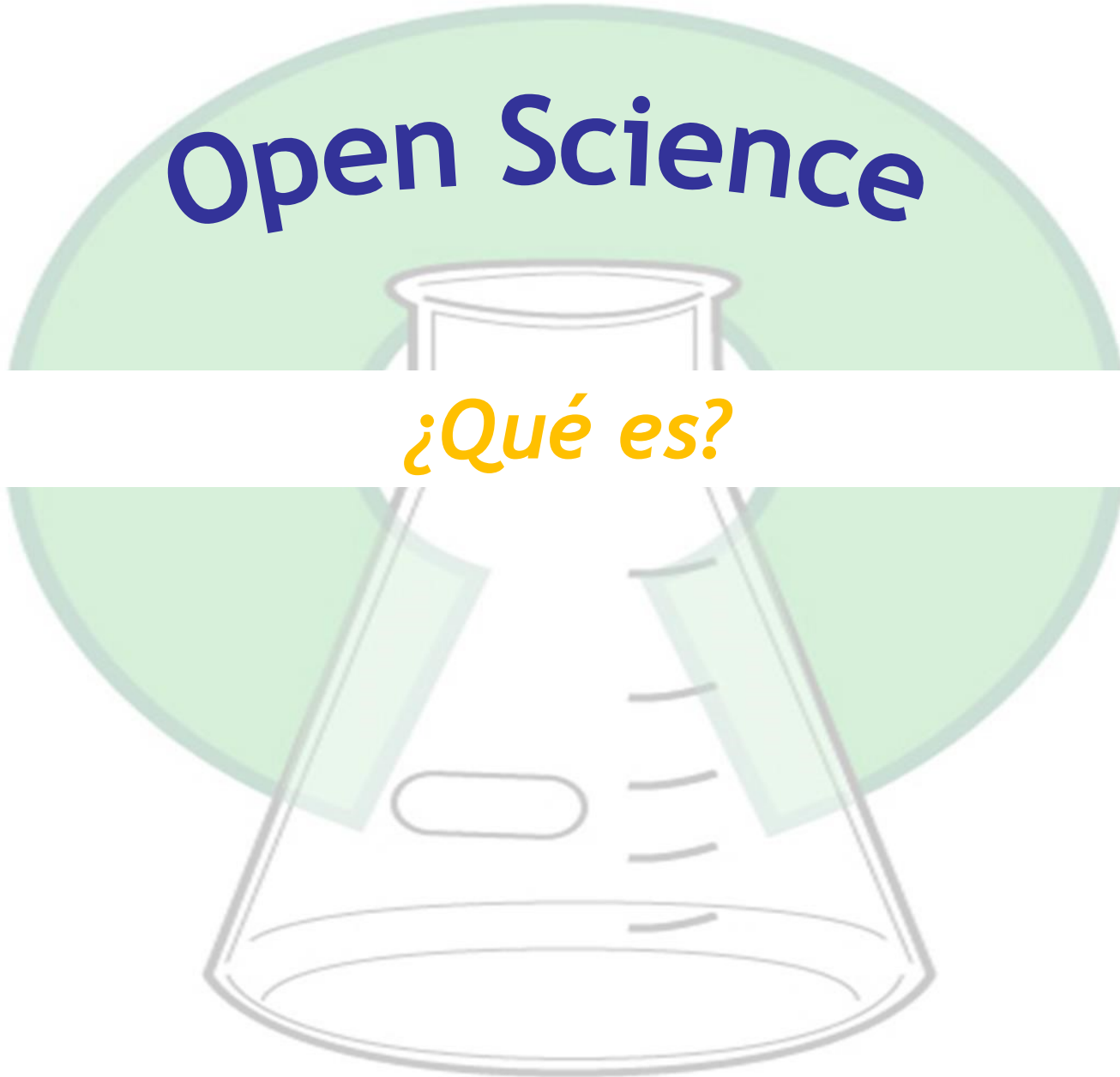
“deposit research data ... to make it possible for third parties to access, mine, exploit, reproduce and disseminate, free of charge”

Source: http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf



Open Science

¿Qué es?



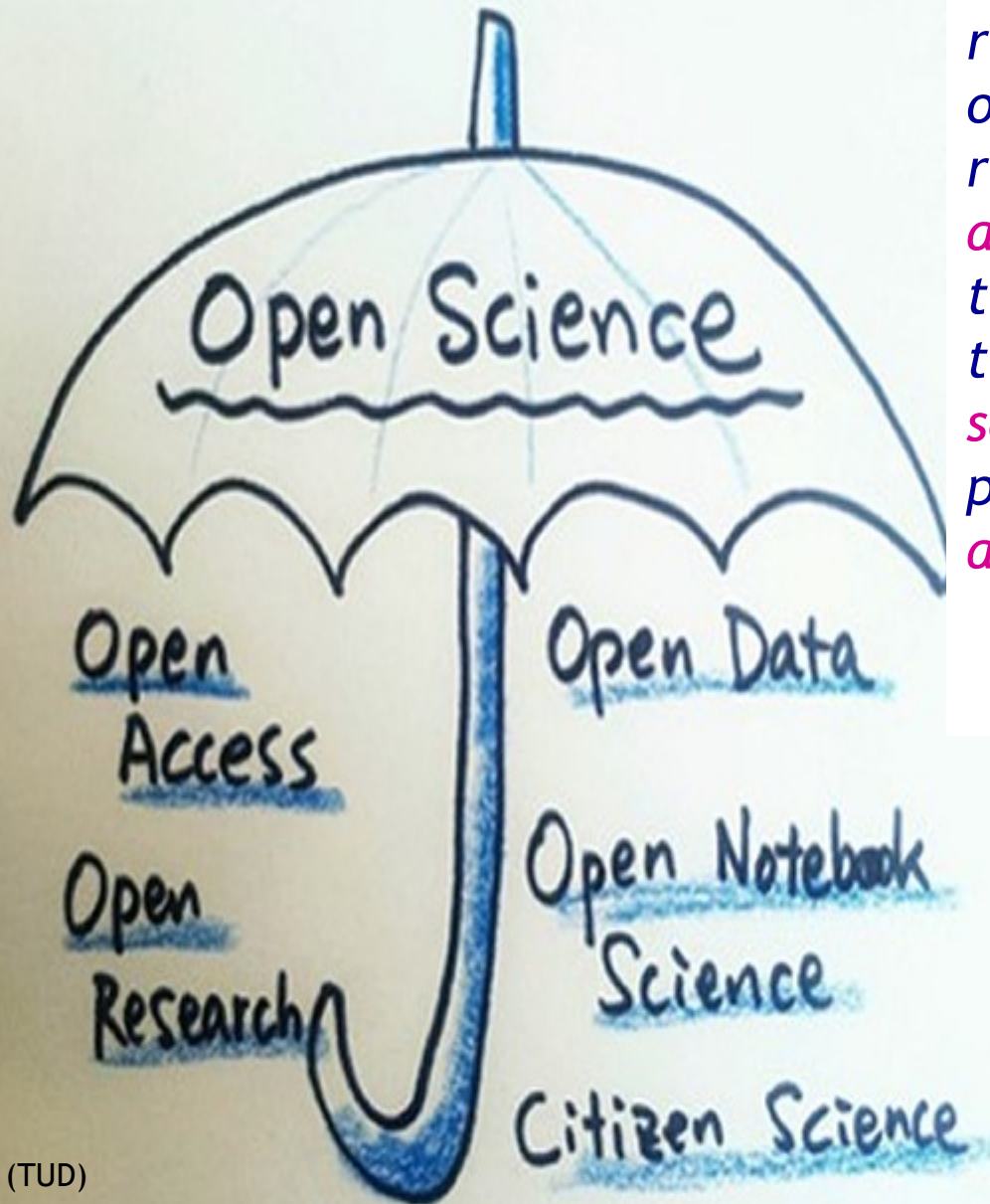
Open Science

*“science carried out and communicated in a manner which allows others to **contribute**, **collaborate** and add to the research effort, with all **kinds of data**, results and protocols made freely available at different stages of the research process.”*

Research Information Network, Open Science case studies

[www.rin.ac.uk/our-work/data-management-and-curation/
open-science-case-studies](http://www.rin.ac.uk/our-work/data-management-and-curation/open-science-case-studies)





Open science commonly refers to efforts to make the output of publicly funded research more *widely accessible in digital format* to the *scientific community*, the *business sector*, or *society* more generally ... to promote long-term *research as well as innovation*.

[OECD Sept 2015](#)



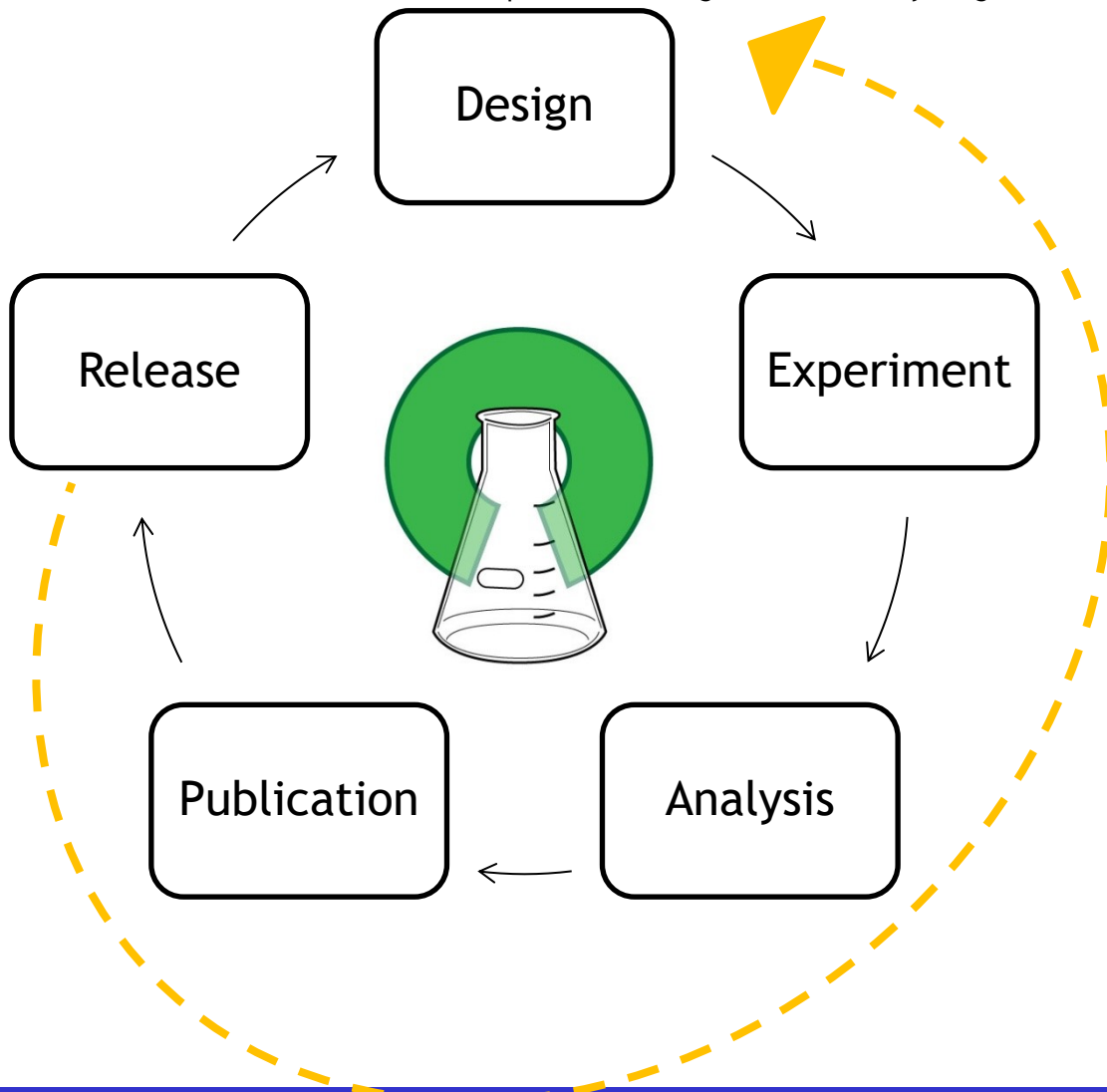
#AllAboutOpen

- Open Software (FOSS)
- Open Access
- Open Education (OERs, MOOCs)
- Open Data and LOD
- Open knowledge
- Creative Commons Licensing
- Open design
- Web 2.0 → Open methods (colaborativos, tipo wiki: Open notebook science)
- Y por supuesto... **Open Science/Open Research**



#AlwaysOpen

Open science image CC BY-SA 3.0 by Greg Emmerich www.flickr.com/photos/gemmerich/6365692655



Cambio en el ciclo de vida de la investigación

Publicar desde el principio y liberar más

Papers + Datos + Métodos+ Código...

Apoyar la reproducibilidad



Factores clave para la Open Science

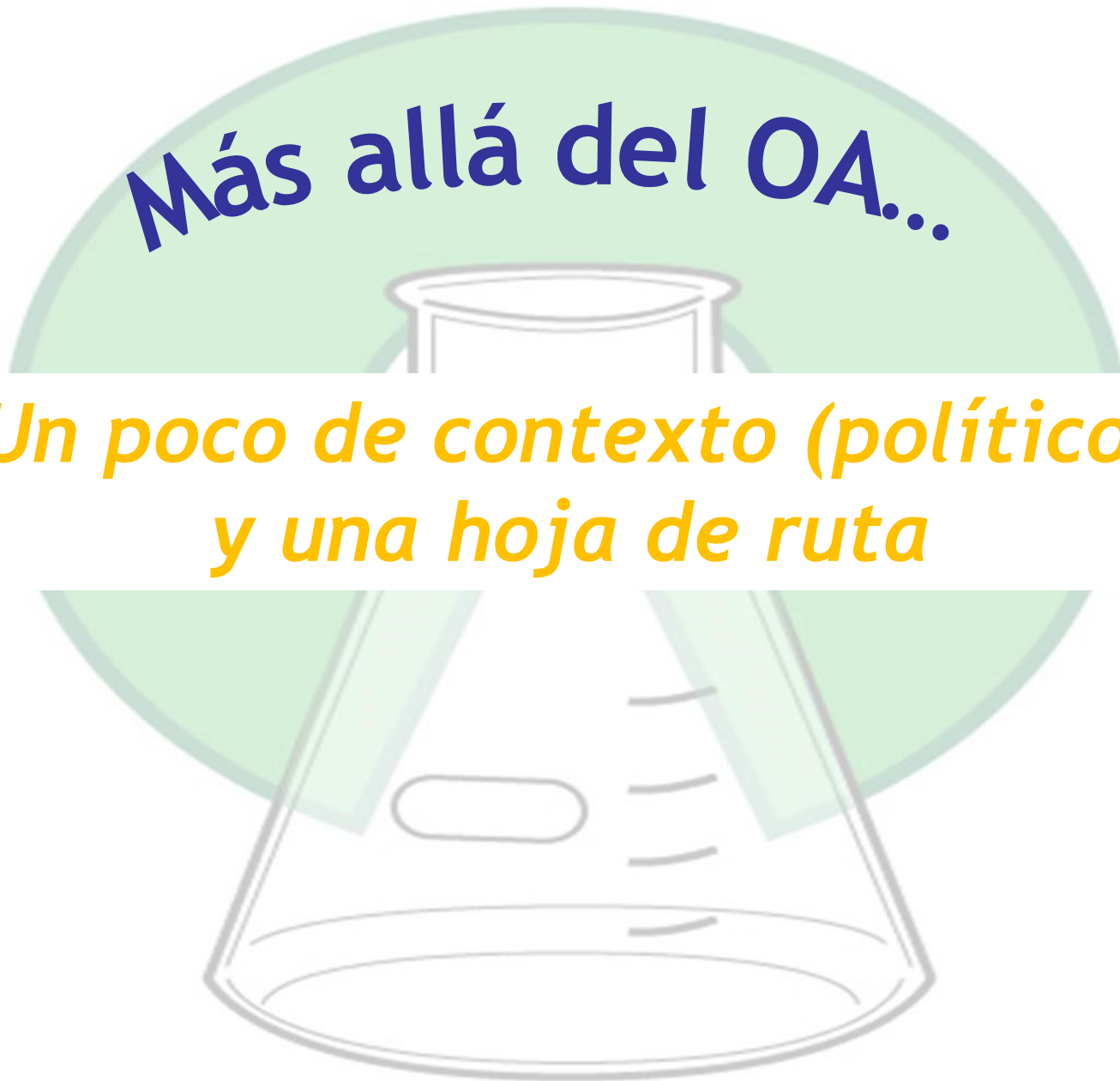
- Crecimiento exponencial de los datos
- Disponibilidad de tecnologías digitales
- Crecimiento de la población “científica” global
- Demanda pública de una ciencia mejor y más eficaz
- Demanda de una ciencia más responsable, sensible y transparente
- Necesidad de abordar desafíos sociales más rápido.
- Necesidad de contribuir al crecimiento económico.

(Basado en: J.C. Burgelman, 2015)



Más allá del OA...

***Un poco de contexto (político)
y una hoja de ruta***



Buscar

 Iniciar sesión

 [NOTICIAS Y EVENTOS](#) [PROYECTOS Y RESULTADOS](#) [REVISTAS DE RESEARCH*EU](#) [PARTNERS](#)

Descargar



 Imprimir

 Booklet

 My booklet (0)

Open Access Research Data without Barriers Conference in Gothenburg

Contributed by: Trust-IT Services

From 2013-03-18 to 2013-03-20, Austria

*Research Data Alliance Launch and First Plenary
March 18-20, 2013, Gothenburg, Sweden*



RESEARCH DATA ALLIANCE

http://europa.eu/rapid/press-release_SPEECH-13-236_en.htm



“... **the era of Open Science**. I'm in no doubt we are entering that phase: and that the **impact will be good** for citizens, good for scientists and good for society.

Whether it's scientific results, the **data they are based on**, the software used for analysis, or the education resources that help us teach and learn, **being more open** can help, **transforming every discipline** from astronomy to zoology, and **making our lives better**. (Nelle Kroes. RDA, 2013)”

Imperativo político (la CE & Openness)



"Open Science, of which Open Access is an important part, will be vital to ensuring European progress and prosperity in the future"

(Moedas. Speech at NETHER, January 26, 2015)

A NEW START FOR EUROPE
OPENING UP TO AN ERA
OF INNOVATION

*Open Science,
Open Innovation
Open to the World*

http://europa.eu/rapid/press-release_SPEECH-15-5243_en.htm



Imperativo económico



DATA SHARING

“...Open access to **scientific results** and **data** is a **great way to boost science, boost the economy, and enable new techniques and collaborations between disciplines.**

Really it's quite simple: it's about ensuring you can see the **results you've already paid for through your taxes....**”

(Nelle Kroes)

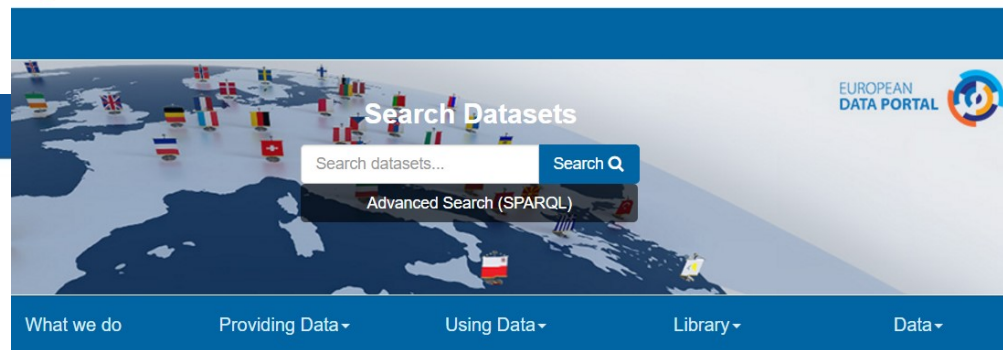
Cartoon by Auke Herrema



Magazine



¿Imperativo legal?



Commission Open Data Policy in EU context



- > A strategy for smart, sustainable and inclusive growth
- > A vision to achieve high levels of employment, a low carbon economy, productivity and social cohesion, to be implemented through concrete actions at EU and national levels.



- > One of the seven flagship initiatives of Europe 2020, set out to define the key enabling role that the use of ICTs will have to play if Europe wants to succeed in its ambitions for 2020.
- > The overall aim [...] is to deliver sustainable economic and social benefits from a digital single market [...]
- > Action 3: Open up public data resources for re-use



"The Commission is invited to **make rapid progress in key areas of the digital economy to ensure the creation of the Digital Single Market by 2015, including [...] the availability of public sector information.**"

Conclusions of the European Council (4 February 2011)

4

PSI

<https://ec.europa.eu/digital-agenda/en/european-legislation-reuse-public-sector-information>

"...Open access to *scientific results* and *data* is a great way to boost science, boost the economy, and enable new techniques and collaborations between disciplines.

Really it's quite simple: it's about ensuring you can see the *results* you've already paid for through your taxes...."

(Nelle Kroes)

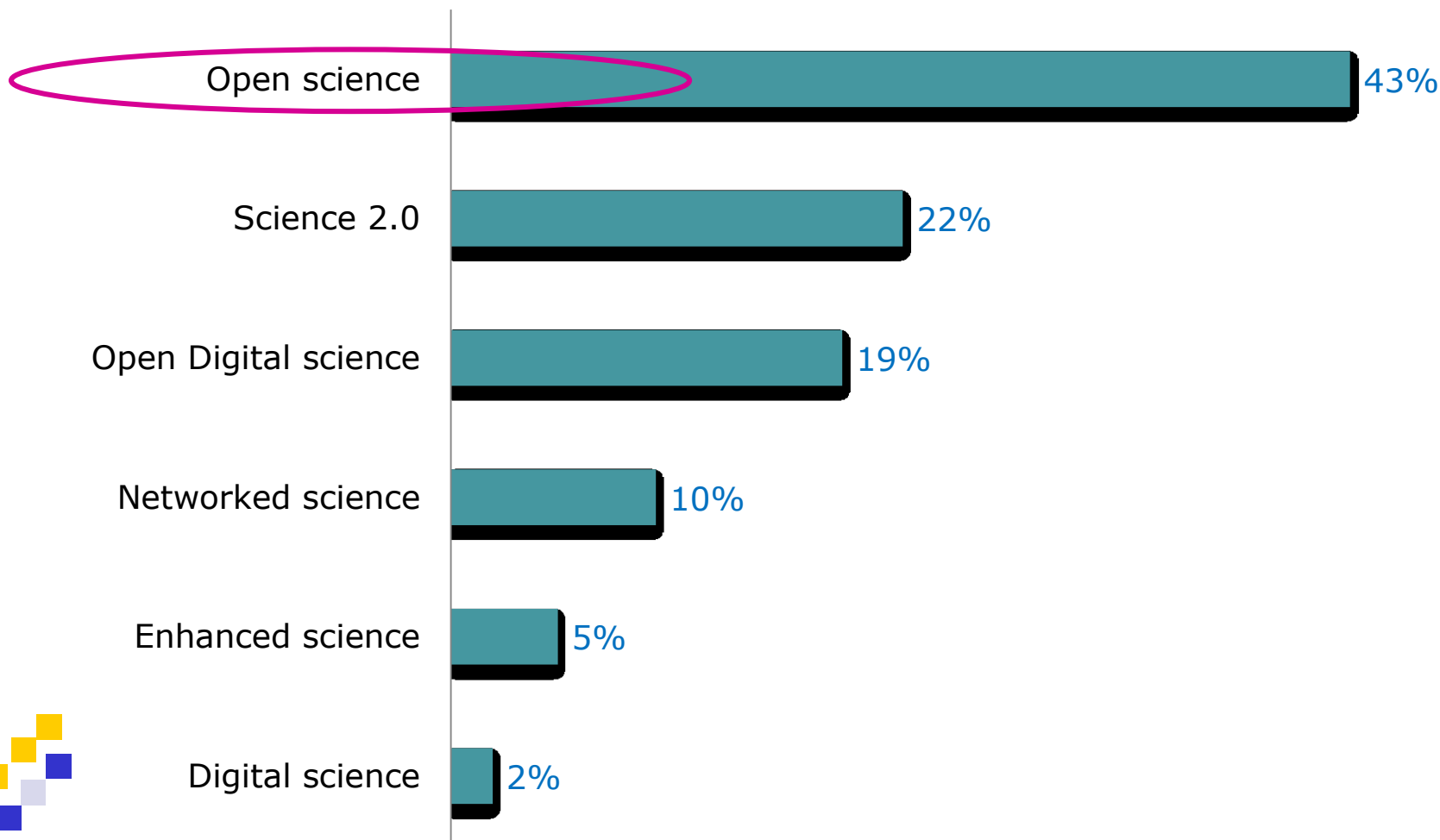
Imperativo social

Public consultation in Science 2.0
Julio-Sept 2014

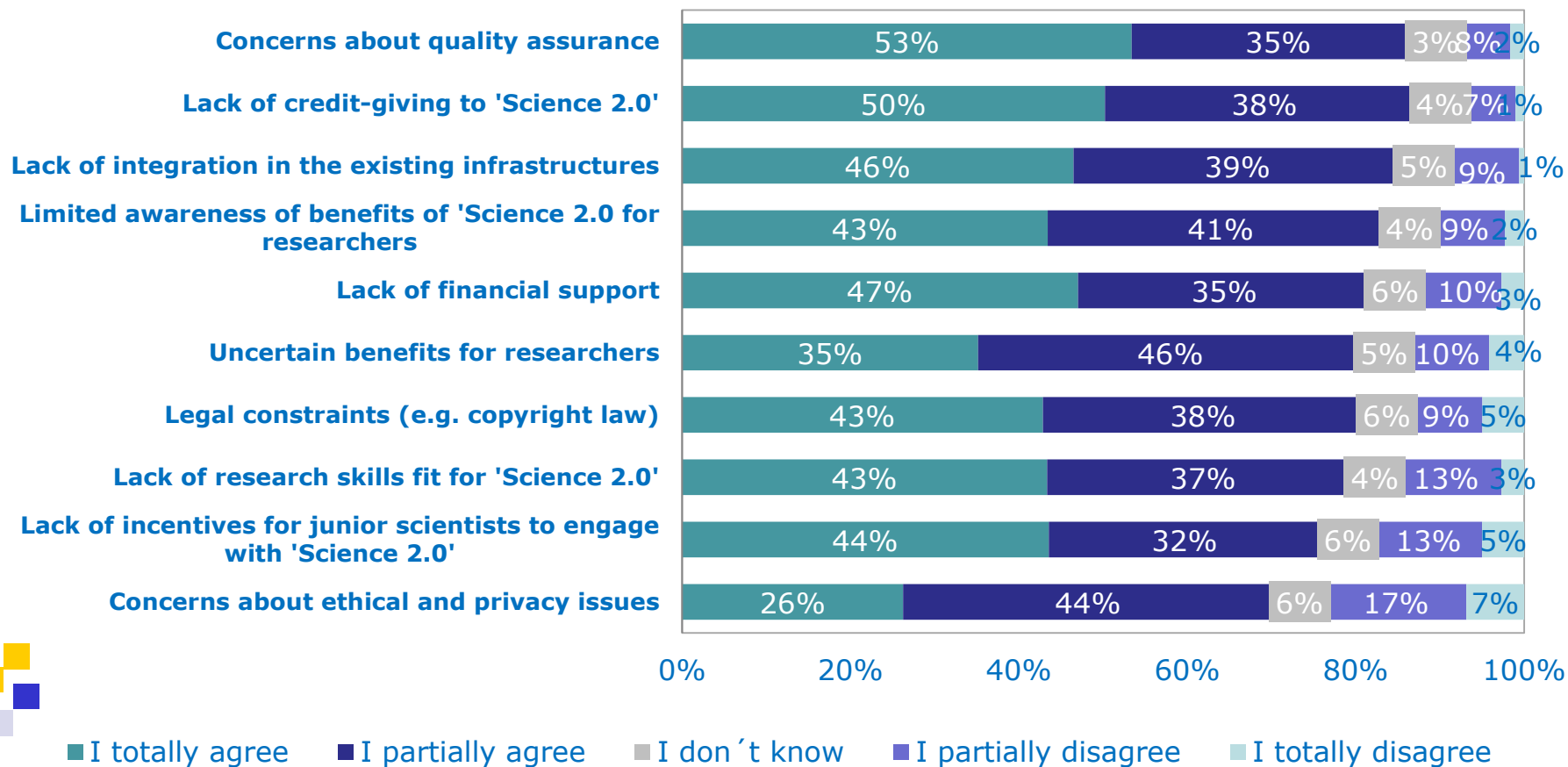
- Evaluar el grado de conciencia por parte de los agentes implicados ante la diversidad de *modus operandi*.
- Evaluar la percepción de las oportunidades y desafíos.
- Identificar las posibles implicaciones y acciones políticas para fortalecer la competitividad del sistema de la ciencia y la investigación europea.



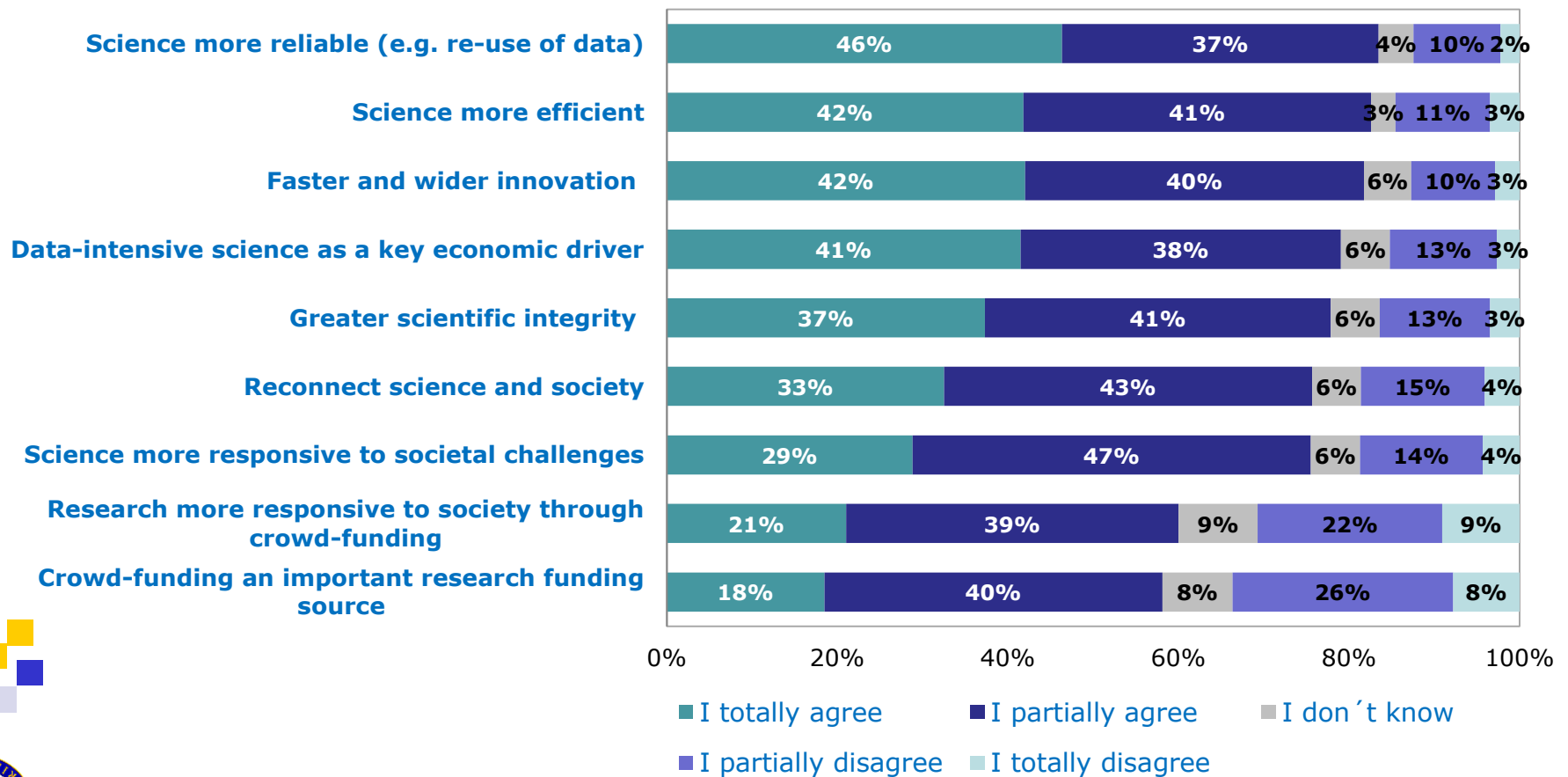
El término más apropiado



Barreras de la Open Science (2.0)



Implicaciones para la Economía la Sociedad y el sistema de investigación actual





European Research Area - Data-intensive and networked research - Open science

Los Estados miembros expresaron su deseo para el desarrollo de una *Agenda Europea de la Ciencia Abierta*

- Actuar para eliminar obstáculos para el acceso a las **publicaciones** de investigación financiados con fondos públicos y los **datos** subyacentes
- Actuar también para una mejor gestión de datos y, en este contexto, WELCOME!! *Pilot on Open Research Data under Horizon 2020;*
- En el contexto de la implementación del ERA se espera que exista la posibilidad de elaborar **planes de acción o estrategias para la Open Science**



22-23 JUNE 2015

Charlemagne Building, Brussels

OPENING UP TO AN ERA
OF INNOVATION



- *Open Science, Open Innovation & Open to the World*
- *Openness is the key of excellence*
- *Launch of the EU Open Science Agenda*



2016: *From vision to action*



Amsterdam Call for Action
on Open Science

EU
2016



Amsterdam Call for Action
on Open Science

EU
2016





Llamada a la acción! 4-5 abril 2016

Formulado para alcanzar dos importantes **objetivos** pan-Europeos para el 2020:

1. **Acceso Abierto completo a todas las publicaciones científicas**
2. **Una aproximación totalmente nueva hacia la reutilización óptima de los datos de investigación**

Para alcanzar estos objetivos en el 2020 se necesita una **política** que los proteja:

- **Nuevos sistemas de valoración, recompensa y evaluación**
- **Alinear las políticas e intercambiar las mejores prácticas**

<http://english.eu2016.nl/documents/reports/2016/04/04/amsterdam-call-for-action-on-open-science>



Infraestructuras, RRHH y buenas prácticas: 19 de abril 2016

Bruselas, 19.4.2016
COM(2016) 178 final

COMUNICACIÓN DE LA COMISIÓN AL PARLAMENTO EUROPEO, AL CONSEJO, AL COMITÉ ECONÓMICO Y SOCIAL EUROPEO Y AL COMITÉ DE LAS REGIONES

**Iniciativa Europea de Computación en la Nube: construir en Europa una economía
competitiva de los datos y del conocimiento**

{SWD(2016) 106 final}
{SWD(2016) 107 final}

- Infraestructuras de alto rendimiento (imposibles a nivel estado)
- Estándares, protocolos (interoperabilidad)
- Recursos humanos: Formación de nuevos especialistas (data scientists, data librarians)
- Buenas prácticas en gestionar y compartir datos

<http://eur-lex.europa.eu/legal-content/ES/TXT/PDF/?uri=CELEX:52016DC0178&from=en>





El **Consejo de Ministros** de Ciencia de los países de la UE se pusieron de acuerdo en:

- Apoyo a la EC para H2020 y las iniciativas políticas de la EU
- Apoyar más coordinación y armonización en estándares comunes
- **OSPP: *Open Science Policy Platform***: Desarrollar más y mejores interacciones con los agentes implicados



Todas las publicaciones financiadas con fondos públicos sean de libre acceso en 2020 + óptima reutilización de los datos de investigación: debería ser: ***“as open as possible, as closed as necessary”***.

Reutilización de los datos: principios **FAIR** (*findable, accessible, interoperable and re-usable*) dentro de un entorno confiable y seguro

<http://data.consilium.europa.eu/doc/document/ST-9526-2016-INIT/en/pdf>



OSPP: 25 miembros / 8 grupos de stakeholders

■ Universities:

- Norbert Lossau (EUA)
- Kurt Deketelaere (LERU)
- Karel Luyben (CEASAR)
- Eva Méndez (YERUN)
- Manuela Epure (ACEU)

■ Research organizations:

- Ernst Kristiansen (EARTO)
- Michela Bertero (EU-LIFE)
- Michele Garfinkel (EMBO)
- Tuija Hirvikoski (ENoLL)

■ Academies/Learned Societies:

- Christophe Rossel (EPS)
- Wolfram Koch (EUCHEMS)
- Michela Vignoli (YEAR)
- Sabina Leonelli (GYA)

■ Funding organisations:

- Matthias Kleiner. Science Europe

■ Citizen Science organisations:

- Johannes Vogel (ECSA), *Chair*

■ Publishers:

- Michael Mabe (STM)
- Paul Peters (OASPA)

■ OS platforms and intermediaries:

- Rebecca Lawrence (F1000)
- John Wood (RDA)
- Steve Cotter (GÉANT)
- Sergio Andreozzi (EGI)
- Natalia Manola (OpenAIRE)
- Jennifer Edmond (DARIAH),
- Jan van den Biesen. Business EU

■ Libraries:

- Kristiina Hormia Poutanen (LIBER),

http://ec.europa.eu/research/openscience/pdf/ospp_nominated_members.pdf#view=fit&pagemode=none



OSPP: Mandato

Funcionar como un mecanismo dinámico basado en los agentes implicados

- Identifica problemas a tratar
- Recoger y tratar los temas que preocupan a la ciencia y la investigación

Asesorar a la Comisión

- En cómo desarrollar e implementar prácticamente la política de OS
- Hacer recomendaciones de acciones políticas necesarias y de cualquier aspecto innovador que afecte a OS.



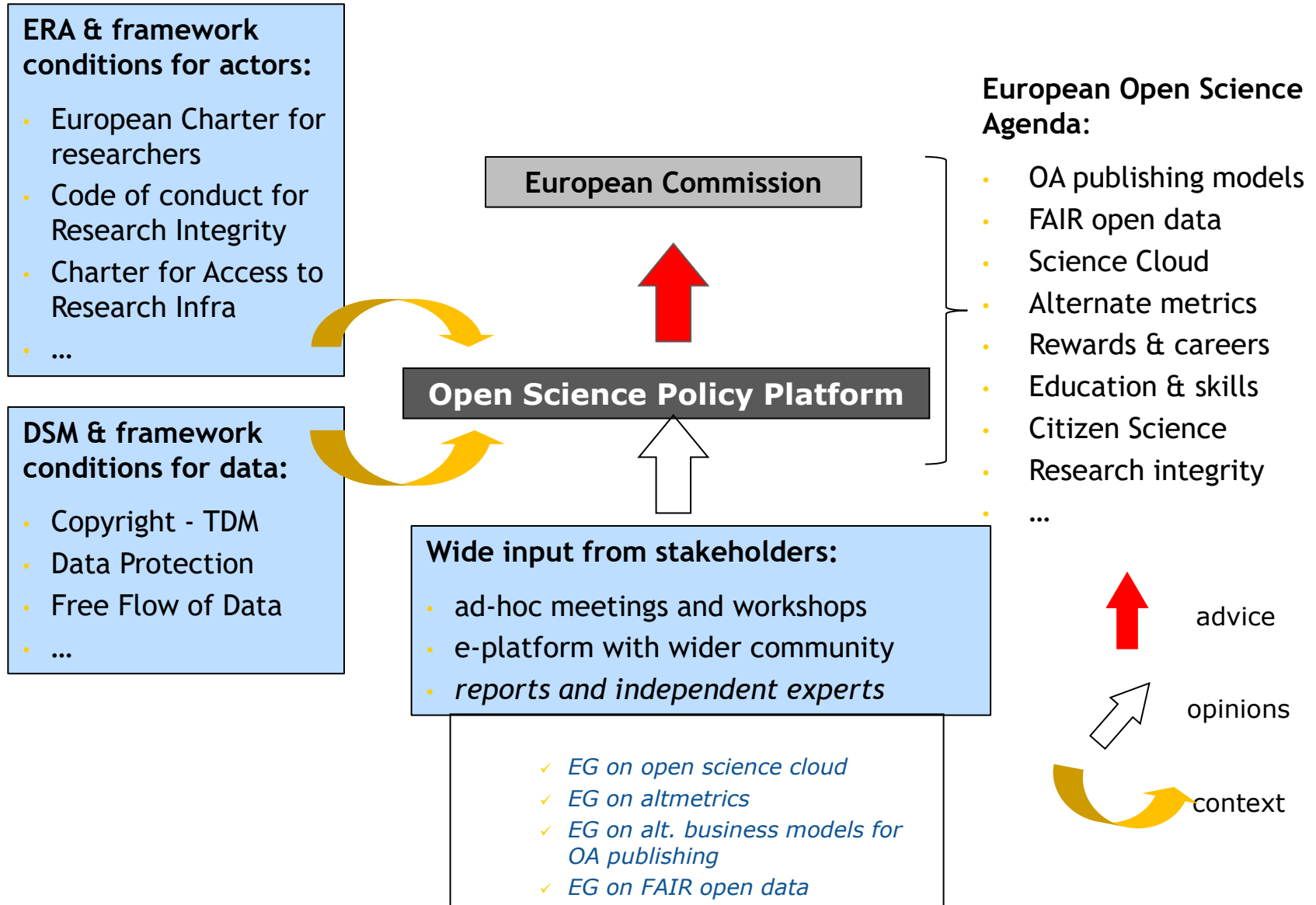
Foto tomada durante a reunión 19/09/2016

Apoyar la implementación

Contribuyendo a revisar las mejores prácticas, creando guías políticas y promocionando la adopción activa por las partes interesadas



OSPP: Cómo funciona



EU-Cambio sistémico en la Ciencia: 5 acciones políticas y 8 ambiciones

- Fortalecer la **Ciencia Abierta**
- Eliminar **barreras** para la Open Science
- Desarrollar **Infraestructuras** de investigación para la Ciencia Abierta
- Convertir el acceso abierto a los datos de investigación en la situación “**por defecto**”
- Insertar la Ciencia abierta en la Sociedad (**Ciencia Ciudadana**)

1. Altimetrics en calidad e impacto
2. Cambiar modelos de publicación
3. FAIR open data
4. Open Science Cloud (EOSC)
5. Sistema de incentivos
6. Integridad de la investigación
7. Ciencia ciudadana
8. Educación y formación abierta



Open Science



*Del Open Access a la Open
Science... Open Data & Open...ness
(Implicaciones)*



The Lancet, [Volume 377, Issue 9768](#), Pages 849 - 862, 5 March 2011
doi:10.1016/S0140-6736(10)60667-8 [Cite or Link Using DOI](#)

2011

[< Previous Article](#) | [Next Article >](#)

This article can be found in the following collections: [Infectious Diseases \(Infectious diseases-other\)](#)
Published Online: 16 November 2010

Copyright © 2011 Elsevier Ltd All rights reserved.

Ebola haemorrhagic fever

Dr [Heinz Feldmann MD](#)  , [Thomas W Geisbert PhD](#) 

Summary

Ebola viruses are the causative agents of a severe form of viral haemorrhagic fever in man, designated Ebola haemorrhagic fever, and are endemic in regions of central Africa. The exception is the species Reston Ebola virus, which has not been associated with human disease and is found in the Philippines. Ebola virus constitutes an important local public health threat in Africa, with a worldwide effect through imported infections and through the fear of misuse for biological terrorism. Ebola virus is thought to also have a detrimental effect on the great ape population in Africa. Case-fatality rates of the African species in man are as high as 90%, with no prophylaxis or treatment available. Ebola virus infections are characterised by immune suppression and a systemic inflammatory response that causes impairment of the vascular, coagulation, and immune systems, leading to multiorgan failure and shock, and thus, in some ways, resembling septic shock.

To read this article in full you will need to login or make a payment

Already Registered? Please Login

Username:

Password:

Payment Options

[Purchase this article for \\$31.50](#)

Online access for 24 hours. The PDF version can be downloaded as your permanent record.

31 USD
For 1 day



Closed Access Means People Die



Open Access a las publicaciones: Recursos

- Open DOAR (Directory on Open Access Repositories): <http://www.opendoar.org>
- DOAJ (Directory of Open Access Journals): <https://doaj.org>
- SHERPA RoMEO: <http://www.sherpa.ac.uk/romeo>
- OpenAire2020: <https://www.openaire.eu>
- [Tu repositorio] <http://dehesa.uex.es>



Open Data



“Open data and content can be freely used, modified and shared by anyone for any purpose”

<http://opendefinition.org>

Tim Berners-Lee’s proposal for five star open data - <http://5stardata.info>

- ★ make your stuff available on the Web (whatever format) under an open licence
- ★★ make it available as structured data (e.g. Excel instead of a scan of a table)
- ★★★ use non-proprietary formats (e.g. CSV instead of Excel)
- ★★★★ use URIs to denote things, so that people can point at your stuff
- ★★★★★ link your data to other data to provide context



Open Access (OA) in 7FP



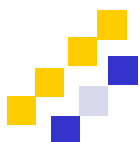
OA: Green/ gold

Areas: Health; Energy; Environment; Information and Communication; Technologies (Cognitive Systems, Interaction, Robotics); Research Infrastructures (e-Infrastructures); Socio-economic Sciences and Humanities; Science in Society

Embargo max: 6 meses , 12 months (SSHH)

Grant Agreement Art. 39

eInfrastructures: OpenAire y Zenodo



Open Access (OA) in Horizon 2020



Guidelines on Open Access
to Scientific Publications and Research
in Horizon 2020

Version 1.0
11 December 2013



- OA: **green** & **gold** para todas las áreas
- **Nuevo:** Open Data (29.2 y 29.3) → piloto de apertura de datos de investigación en 9 áreas (**ht 2016**) y para todos los proyectos (2017)
- Los estados miembros desarrollarán mecanismos e infraestructuras para OA
- Embargo: 6 y 12 meses como 7FP (vía verde). Depósito inmediato si gold.
- Soporte: [OpeAire2020](#) & [Zenodo](#) (incl. datasets)

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf



Science. Set free.

[Deposit Publications & Data](#)[Link Research Results](#)[Validate / Register Repository](#)[Content policy](#)[EU FUNDERS](#)[FCT](#)[RESEARCH COMMUNITIES](#)[EGI](#)

Find out what OpenAIRE is about

Mexico adopts OpenAIRE guidelines for literature and data repositories



The Mexican government's science and technology agency, CONACYT, has recently published a set of technical requirements for all Mexican repositories ("Technical Guidelines for the National Repository and Institutional Repositories"). These guidelines make clear the steps Mexico must take to ensure the preservation of its peer-reviewed

RESEARCHERS

Why Open Access. How to comply. What services to use.

DATA PROVIDERS

How to make your content more visible. What to do to increase quality. How to join.

RESEARCH ADMINS

How to monitor research results. What

FUNDERS

Why align policies and practices. How to

Search

Communities

Browse ▾

Upload

Get started ▾

Sign In

Sign Up

Datasets

Lessons

Images

Posters

Presentations

Publications

Software

Video/Audio

Q Search

Filter by types

Publications (27842)

Books (2157) Book sections (0)

Project Milestones (1) Proposal

Posters (420)

Presentations (818)

Datasets (1947)

Images (405)

Figures (333) Plots (7) Drawings (11) Diagrams (25) Photos (17) Other (12)

Videos/Audio (90)

Software (6512)

Lessons (59)

Journal articles (11795) Patents (3) Preprints (192) Project Deliverables (51)

Technical notes (16) Technical notes (56) Working papers (182) Other (809)

Using GitHub?

Check out our GitHub integration.
Software Preservation Made Simple!



New to Zenodo?

- **Research. Shared.** – all research outputs from across all fields of science are welcome!
- **Citeable. Discoverable.** – uploads gets a Digital Object Identifier (DOI) to make them easily and uniquely citeable.
- **Community Collections** – accept or reject uploads to your own community collections (e.g workshops, EU projects or your complete own digital repository).
- **Funding** – integrated in reporting lines for research funded by the European Commission via OpenAIRE.
- **Flexible licensing** – because not everything is under Creative Commons.
- **Safe** – your research output is stored safely for the future in same cloud infrastructure as research data from CERN's Large Hadron Collider.
- **DropBox integration** – upload files straight from your DropBox.

Recent Uploads

20 October 2015

Presentation

Open access

View

Big and Smart Data Analytics - Possible Advantages to Clinical Practice

Di Meglio, Alberto ; Manca, Marco

The growing availability of large quantities of data from medical devices, laboratory notes, digital simulations, doctors' notes, images, and even social networks are opening new opportunities for medical research and clinical practice. A proper ...

Uploaded by albertodm on 21 October 2015.

¿Por qué abrir los datos de investigación?

"It was **never** acceptable to publish papers without making data available."

- Ewan Birney

#OpenData
#OpenScience



Original image via doi:10.1038/461145a. "Research cannot flourish if data are not preserved and made accessible. Data management should be woven into every course in science." - *Nature* 461, 145



¿Qué hacer para compartir los datos de investigación?

- Crear un DMP: Data Management Plan [DMP, deliverable M6]:
 - <https://dmponline.dcc.ac.uk> (en inglés)
 - <http://dmp.consorciomadrono.es> (en español)
- Seleccionar un repositorio de datos para preservar datos, metadatos y herramientas (contactar repositorio: guías, etc.):
 - <http://www.zenodo.org>
- Curar datos implica mucho esfuerzo: asegúrate de que estás “guardando lo que merece la pena” (*underlying*)



23 Cosas (RD4LIB)



23 Cosas: Bibliotecas para los Datos de Investigación

Recursos prácticos y herramientas online libres, que puedes usar ya, para incorporar la Gestión de Datos de Investigación a tu práctica bibliotecaria

Compartir datos de investigación sin barreras

Recursos de aprendizaje

Los bibliotecarios buscan y aprenden cómo aplicar los principios de la Biblioteconomía para dar nuevos servicios y solucionar problemas relacionados con los datos de investigación.

1. Las 10 recomendaciones más importantes de LIBER para empezar con la gestión de datos de investigación en bibliotecas, <http://bit.ly/RDAthings>
2. El tesoro e-Science presenta y mapea los conceptos más relevantes, <http://bit.ly/RDAthings>
3. Entiende el ciclo de vida de los datos de investigación gracias al Modelo de custodia del Ciclo de vida del DCC, <http://bit.ly/RDAthings>
4. MANTRA. Módulos de Formación en línea para gestores de datos de investigación, <http://bit.ly/RDAthings>
5. Lee la bibliografía más actualizada <http://bit.ly/RDAthings>
6. Ejemplos de guías de recursos creados por bibliotecarios, para saber más sobre gestión de datos en: SpringShare LibGuide Community Site, <http://bit.ly/RDAthings>

Recursos de aprendizaje
Datos de referencia y divulgación
Planes de Gestión de Datos
Alfabetización en datos
Cómo citar datos
Metadatos
Licencias y Privacidad de los datos
Preservación Digital
Repositorios de datos
y una Comunidad de práctica...
...para ayudar a los bibliotecarios a involucrarse en la gestión de datos de investigación

Datos de Referencia y divulgación

Los bibliotecarios responden preguntas sobre datos, y realizan actividades de difusión para conocer las necesidades de investigadores y estudiantes en relación a los datos.

7. Comienza una conversación con un investigador sobre datos:
Realiza entrevistas sobre datos de investigación <http://bit.ly/RDAthings>
8. Aprende más sobre las necesidades de los investigadores, leyendo o creando un perfil nuevo
Perfiles de Custodia/Gestión de datos (por disciplinas), <http://bit.ly/RDAthings>
9. Crea materiales atractivos para ayudar a tus bibliotecarios, p. ej. Kit de Difusión para bibliotecarios (DataOne), <http://bit.ly/RDAthings>

10. Preguntas sobre datos contestadas por expertos en el foro DataQ, <http://bit.ly/RDAthings>

Planes de Gestión de Datos

Los bibliotecarios están al tanto de los requisitos de las Instituciones que financian la investigación y se reúnen con los investigadores para ayudarles a redactar e implementar planes de gestión de datos eficaces.

11. Herramientas que se adaptan a los requisitos de las agencias de financiación y permiten crear un plan, a partir de preguntas dirigidas a los investigadores:
DMPTool (USA) <http://bit.ly/RDAthings>
PGDOnline (Spain) <http://bit.ly/PGDOnline>

Alfabetización en Datos

Los bibliotecarios incluyen, cada vez más, en sus actividades de alfabetización informacional, la formación en datos, de tal forma que los usuarios reconozcan cuándo necesitan datos y sean capaces de localizarlos, evaluarlos y utilizarlos.

12. En el Proyecto (y en el libro) *Data Information Literacy* se desarrolla un currículo para ayudar a los bibliotecarios y profesores a incorporar los datos, en la divulgación y en los cursos de alfabetización informacional, <http://bit.ly/RDAthings>



23 cosas útiles y gratis...

- Recursos de aprendizaje
- Datos de referencia y divulgación
- Planes de Gestión de Datos
- Alfabetización en datos
- Cómo citar datos
- Metadatos
- Licencias y Privacidad de los datos
- Preservación Digital
- Repositorios de datos
- y una Comunidad de práctica...

...para ayudar a los bibliotecarios a involucrarse en la gestión de datos de investigación



¿Qué hacer? Herramientas/Infraestructuras

Data Management Plan

Signed in as Eva Méndez ▾

DMP ONLINE View plans Create plan About Roadmap Help

Create a new plan

Please select from the following drop-downs so we can determine what questions and guidance should be displayed in your plan.

If you aren't responding to specific requirements from a funder or an institution, [select here to write a generic DMP](#) based on the most common themes.

If applying for funding, select your research funder.
Otherwise leave blank.

To see institutional questions and/or guidance, select your organisation.
You may leave blank or select a different organisation to your own.

Tick to select any other sources of guidance you wish to see.

- DCC guidance

European Commission (Horizon 2020)

Funder

- Arts & Humanities Research Council
- Biotechnology and Biological Sciences Research Council
- Cancer Research UK
- Economic and Social Research Council
- Engineering and Physical Sciences Research Council
- European Commission (Horizon 2020)
- Medical Research Council

<https://dmponline.dcc.ac.uk>



¿Qué hacer? Herramientas/Infraestructuras

Data Management Plan (PGD)

<http://www.consorciomadrono.es/pagoda>



INICIO

CREAR UN PGD

PGDOnline

DOCUMENTOS

FAQs

ASESORAMIENTO

PA GO DA - PLAN de Gestión de Datos

Crear su Plan de Gestión de Datos

El Plan de Gestión de Datos lo solicita un contrato de subvención para un proyecto científico.

El Programa Horizonte 2020 requiere que los proyectos en Abierto entreguen un Plan de Gestión de Datos.

Los planes de gestión de datos son una parte importante de la idea de último momento; los revisores buscarán una propuesta, y que forma parte integral de su proyecto. [Grant Agreement: Multi-beneficiary General Model](#) participantes en el Piloto de Datos de Investigación.

El documento [Directrices sobre la Gestión de Datos](#) proporciona indicaciones sobre cómo pueden utilizarse los datos de investigación, su intercambio y sus usos.

Para saber más sobre el Piloto de Datos de Investigación, consulte [este enlace](#).
Para saber más sobre el PGD como parte de su proyecto, consulte nuestras [Faq's](#).
Para saber más sobre el Horizonte 2020, consulte [este enlace](#).

Mi proyecto (Horizon 2020)

No se ha respondido a las preguntas

(Rellenar todos los campos en inglés)

Detalles

PGD inicial

Revisión intermedia

Revisión final

Compartir

Exportar

Para cada dataset, especifique lo siguiente (5 questions, 0 answered)

El PGD debe centrarse en los puntos siguientes dataset por dataset y debe reflejar el estado actual de la reflexión sobre los datos que se producirán

Nombre y referencia del dataset

Orientación

+

Guardar

Aún no respondido/a

Descripción del dataset

B *I*

Orientación

+

Guardar

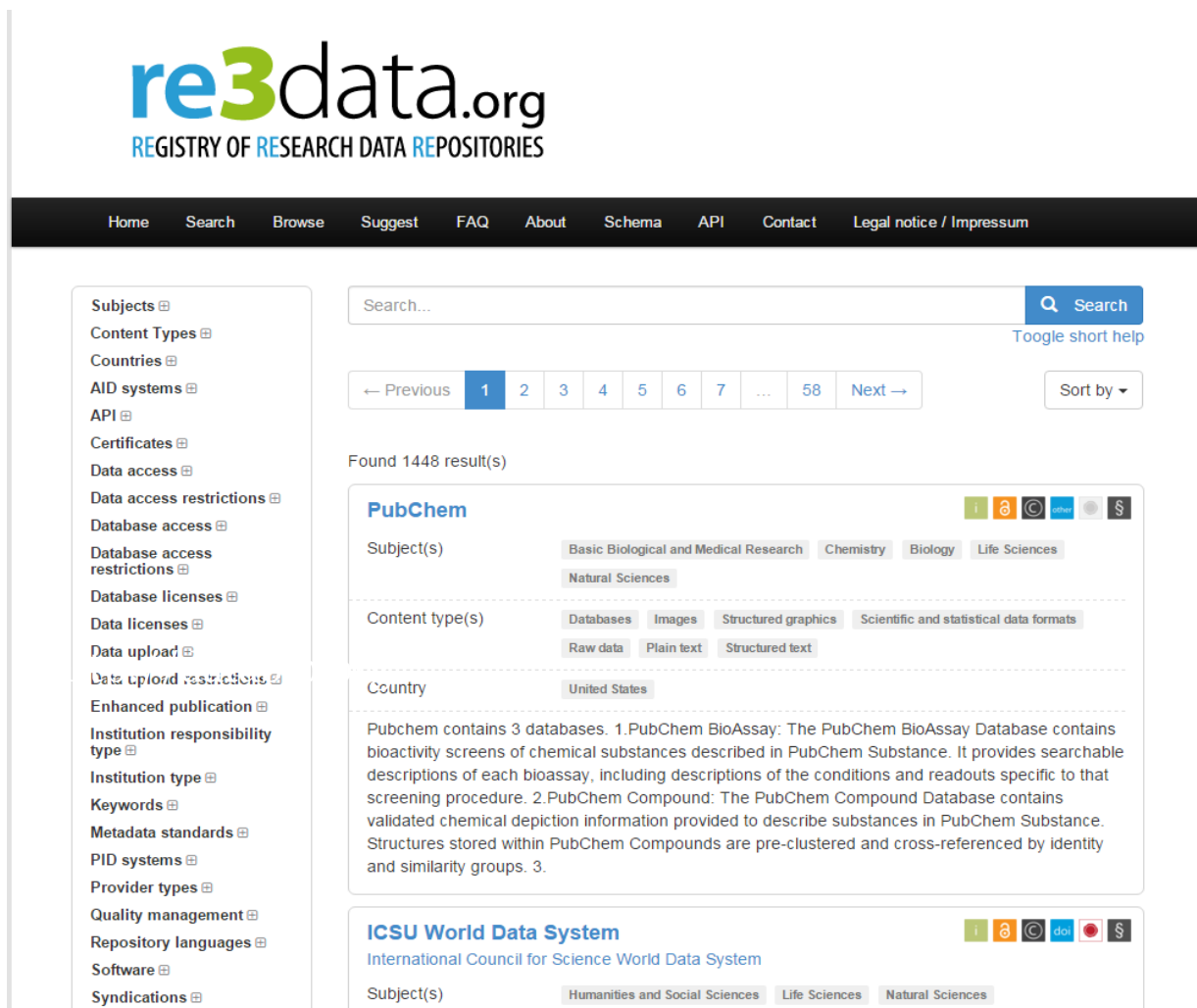
Aún no respondido/a



¿Qué hacer? Herramientas/Infraestructuras

Registro de Repositorios de Datos de Investigación

<http://service.re3data.org>

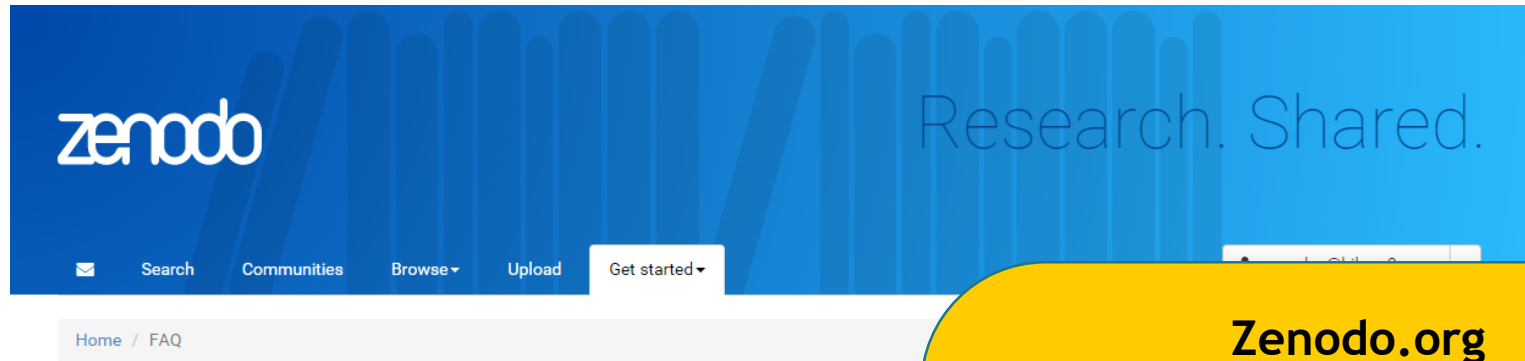


The screenshot displays the re3data.org website interface. At the top, the logo "re3data.org" is shown with the tagline "REGISTRY OF RESEARCH DATA REPOSITORIES". A navigation bar includes links for Home, Search, Browse, Suggest, FAQ, About, Schema, API, Contact, and Legal notice / Impressum. A search bar on the left lists various filters such as Subjects, Content Types, Countries, AID systems, API, Certificates, Data access, Data access restrictions, Database access, Database access restrictions, Database licenses, Data licenses, Data upload, Data upload restrictions, Enhanced publication, Institution responsibility type, Institution type, Keywords, Metadata standards, PID systems, Provider types, Quality management, Repository languages, Software, and Syndications. The main search area shows a search bar with "Search..." and a "Search" button. Below the search bar, a pagination bar indicates "1" is selected, with options for "Previous" and "Next". A "Sort by" dropdown menu is also present. The search results section displays "Found 1448 result(s)". The first result is for "PubChem", which includes a list of subject categories (Basic Biological and Medical Research, Chemistry, Biology, Life Sciences, Natural Sciences) and content types (Databases, Images, Structured graphics, Scientific and statistical data formats, Raw data, Plain text, Structured text). The country is listed as "United States". A detailed description follows: "Pubchem contains 3 databases. 1. PubChem BioAssay: The PubChem BioAssay Database contains bioactivity screens of chemical substances described in PubChem Substance. It provides searchable descriptions of each bioassay, including descriptions of the conditions and readouts specific to that screening procedure. 2. PubChem Compound: The PubChem Compound Database contains validated chemical depiction information provided to describe substances in PubChem Substance. Structures stored within PubChem Compounds are pre-clustered and cross-referenced by identity and similarity groups. 3." The second result is for "ICSU World Data System", with subject categories including Humanities and Social Sciences, Life Sciences, and Natural Sciences.



¿Qué hacer? Herramientas

Repositorio de Datos de Investigación multidisciplinar



FAQ

See also [OpenAIRE FAQ](#) for general information on Open Access and European Commission funded research.

- **What are the size limits in Zenodo?**

We currently accept files up to 2GB (you can have several 2GB files per upload); there is no size limit on communities. However, we don't want to turn away larger use cases. The current infrastructure has been tested with 10GB files, so possibly we can raise the file size limit per community or for the whole of Zenodo if needed. If you would like to upload larger files, please [contact us](#), and we will do our best to help you. Please be aware that we cannot offer infinite space for free, so donations from heavy users towards sustainability are encouraged. Since we target the long-tail of science, we want public user uploads to always be free.

- **What can I upload?**

All research outputs from all fields of science are welcome. In the upload form you can choose between types of files: publications (book, book section, conference paper, journal article, patent, preprint, report, thesis, technical note, working paper, etc.), posters, presentations, datasets, images (figures, plots, drawings, diagrams, photos), software, videos/audio and interactive materials such as lessons. We do check every piece of content being uploaded to ensure it is research related. Please see further information in our [Terms of Use](#) and [Policies](#).

- **Why is my**

All uploads

- **Why is my**

Zenodo is anyone is encourage Access up through se included.

- **Why do yo**

Since there practice of licenses in the extra ben offer additional

Zenodo.org

OpenAIRE-CERN

Multidisciplinar

Diferentes tipos de datos
(publicaciones, *datasets*, etc.)
Citables (DOI)

Enlace de la financiación
(*grant*) a las publicaciones,
datos y software (en su caso)

<https://zenodo.org>



¿Qué hacer? Herramientas

Otras opciones de repositorios de datos

Publishers: Simplify data submission.
Strengthen links between articles and data.
For free.
Integrate your journal with Dryad today »

Browse for data
Recently published Popular By author By journal

Recently published data

- Piper FI, Viñebla B, Linares JC, Camarero JJ, Cavieres LA, Fajardo A (2016) Data from: Mediterranean and temperate treelines are controlled by different environmental drivers. *Journal of Ecology* <http://dx.doi.org/10.5061/dryad.ks97h>
- Bronfman ZZ, Brezis N, Usher M (2016) Data from: Non-monotonic temporal-weighting indicates a dynamically modulated evidence-integration mechanism. *PLOS Computational Biology* <http://dx.doi.org/10.5061/dryad.46qm6>
- McCormick MK, Taylor DL, Whigham DF, Burnett RK (2016) Data from: Germination patterns in three terrestrial orchids relate to abundance of mycorrhizal fungi. *Journal of Ecology* <http://dx.doi.org/10.5061/dryad.4n5h7>
- Crowl AA, Miles NW, Visger CJ, Hansen K, Ayers T, Haberle R, Cellinese N (2016) Data from: A global perspective on Campanulaceae: biogeographic, genomic, and floral evolution. *American Journal of Botany* <http://dx.doi.org/10.5061/dryad.322vn>
- Santamaria CA, Mateos M, DeWitt TJ, Hurtado LA (2019) Data from: Constrained body shape among highly genetically divergent allopatric lineages of the supralittoral isopod *Ligia occidentalis* (Oniscidea). *Ecology and Evolution* <http://dx.doi.org/10.5061/dryad.ci32n>

Search for data
Enter keyword, author, title, DOI, etc. **Go**
[Advanced search](#)

Latest from @datadryad

Tweets Follow

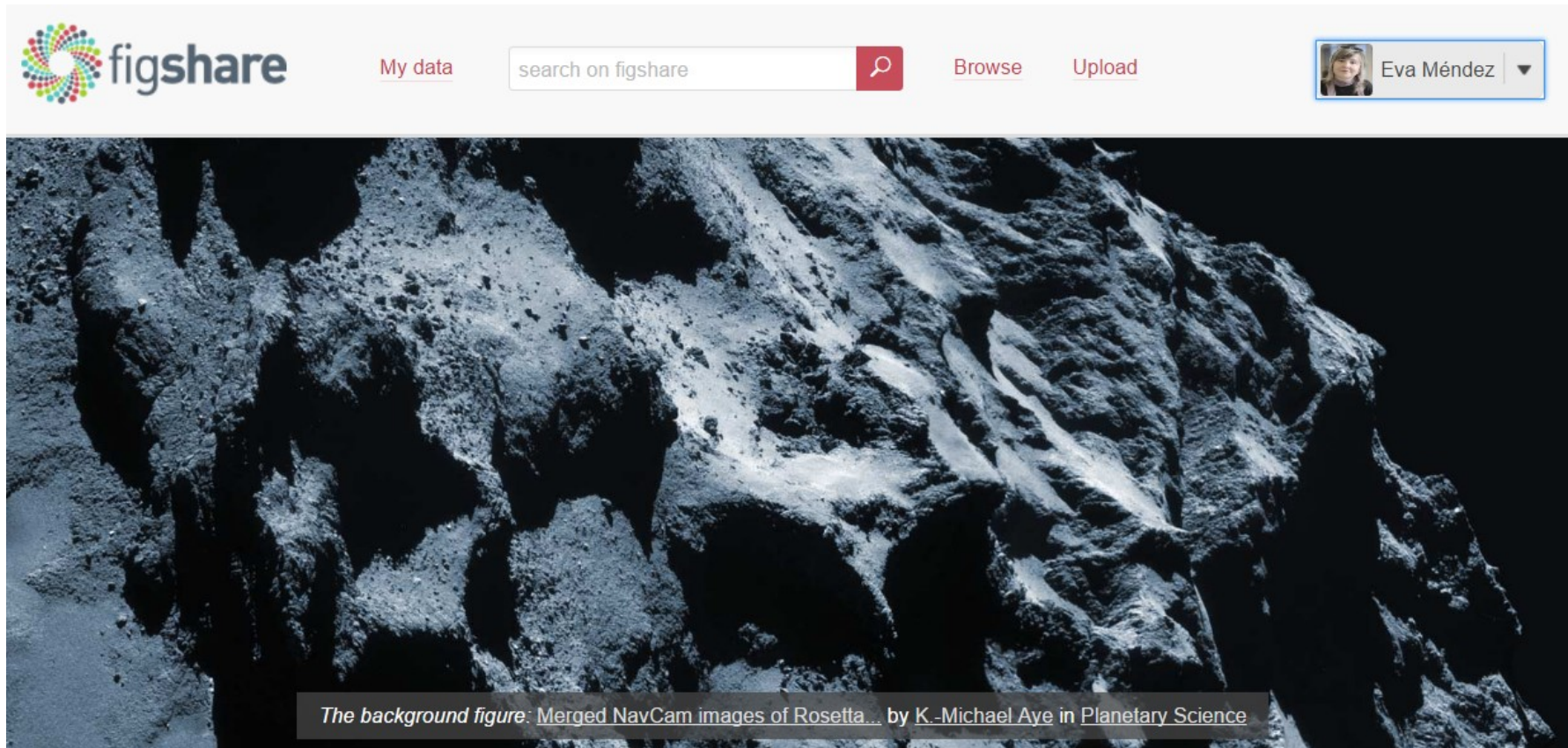
- Simon Hodson** @simonhodson99 49m
Come to International Data Week Sept 2016 - internationaldataweek.org organised by @CODATANews @ICSU_WDS @resdatall #FinCRD
Retweeted by Dryad
Expand
- Dryad** @datadryad 17m
Data citation is becoming real with FORCE11 and Elsevier, from @herrison elsevier.com/connect/data-c...
- Joe Hilgard** @JoeHilgard 13 Feb
McNutt: @sciencemagazine is adopting TOPP 2 guidelines for data and code, must be available to all in "public repo." pic.twitter.com/NeP8qkIDcH
Tweet to @datadryad

<http://datadryad.org>



¿Qué hacer? Herramientas

Otras opciones de repositorios de datos



The screenshot shows the Figshare website interface. At the top left is the Figshare logo, a colorful circular icon followed by the text "figshare". To the right of the logo are navigation links: "My data", a search bar containing the text "search on figshare" with a magnifying glass icon, "Browse", and "Upload". On the far right is a user profile dropdown menu showing a small profile picture and the name "Eva Méndez" with a downward arrow. Below the navigation bar is a large image of a rocky, cratered surface, likely from the Rosetta mission. At the bottom of this image is a caption: "The background figure: Merged NavCam images of Rosetta... by K.-Michael Aye in Planetary Science".



<https://figshare.com>

Implicaciones de Open Science para la financiación de la investigación



<https://www.flickr.com/photos/eventosuc3m/albums/72157652847942161>



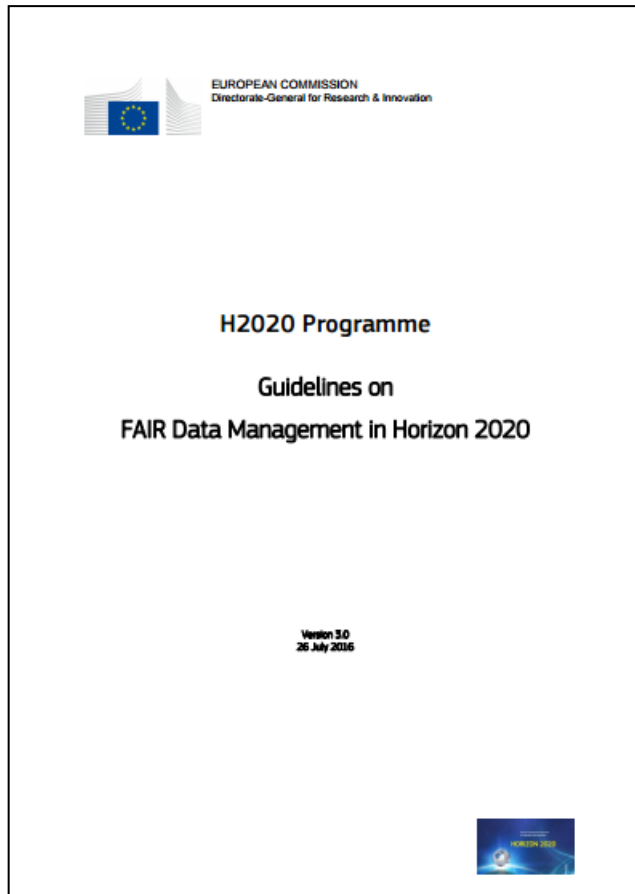
EU Open Science Cloud

<http://bit.ly/EOSCvideo>



Gestión de datos FAIR (RR)

(Julio 2016)



- **F**indable (metadatos, PID)
 - **A**ccessible (Open)
 - **I**nteroperable (estándares)
 - **R**e-usable (licencias)
- +
- **R**eliable (certificación)
 - **R**e producible



Implicaciones de Open Science para la financiación de la investigación

https://zenodo.org/record/12247/files/Winning_Horizon_2020_with_Open_Science_by_FP7_FOSTER_10.5281zenodo.12247.pdf

Winning Horizon2020 with Open Science?

Developed jointly between
FP7 FOSTER & FP7 OpenAIRE+
2015

DOI: 10.5281/zenodo.12247



Innovation Union & Europe 2020 Initiative

WHY Open Science in Horizon 2020?

Open Science (OS) offers researchers tools and workflows for transparent reproducibility, dissemination and transfer of new knowledge. Ultimately, this can all have an impact on research evaluation exercises, e.g. Research Excellence Framework (REF), set to demand greater "societal impact" in future, rather than just research output. OS can also be an effective tool for research managers to transfer knowledge to society and optimize the use and re-use by unforeseen collaborators. For funders, OS offers better return on investment (ROI) for public funding, and underpins the EU Digital Agenda by measurably contributing to economic growth. This brief showcases why and how Open Science can optimize your Horizon 2020 proposal evaluation.

WHO is this "BRIEF" for?

This brief is developed through EC funding and specifically aimed at Horizon 2020 applicants and proposal writers seeking to comply with the Horizon 2020 Mandate (GrA Agreement article 29.1-6) and to optimize proposal evaluation and eventual societal impact of the resulting project.

HOW to use the "BRIEF"?

This brief is developed through EC funding and specifically intended to be used verbatim as copy and paste contribution to your proposal. Instead, the brief presents suggested ways of formulating an impact section that answers the overarching political agendas and initiatives, as well as tips for ensuring that research results are effectively delivered to any users and the market place, across all various Horizon 2020 Pillars. The main text is generic, but some discipline-specific examples are included as examples, rather than covering all research fields. The footnotes also point to additional resources that will facilitate implementation to optimize project visibility and impact.

¹ Weighting of research impact confirmed for 2014 Research Excellence Framework <http://www.refce.ac.uk/news/newsarchive/2011/news62310.html>, 2011

HOW to write "Section 2.2 IMPACT" A generic example

The Project consortium acknowledges that the research and new knowledge generated is of societal benefit, and could potentially contribute toward solutions of societal challenges. As such, the foreground knowledge needs to be disseminated in an optimum way for impact and re-use of results, according to Responsible Research & Innovation (RRI) principles¹⁴.

Currently only 50% of research is freely accessible to the public¹⁵, resulting in measurable loss to the knowledge-based SME sector and slowing down innovation¹⁶. The Project consortium will thus optimize on the dissemination and impact of foreground along the full knowledge production chain, and integrate Open Science principles in its Dissemination & Communication Strategy.

In support of the EC Digital Agenda¹⁷ and the Economic Growth agenda of the Innovation Union (Green Action Plan¹⁸), the consortium will fully integrate Grant Agreement Article 29 into its workflow at task level. Foreground data (state diversity of data generated) will be permanently archived at generation in STATE REPOSITORY¹⁹ and publicly released and/or published²⁰ (with the exception of Third Party data, national security data, medical/patient data) during the lifetime of the project²¹.

Software code, tools and interfaces developed as part of the concept will be open source code and full access provided via STATE REPOSITORY²². Resulting research publications (refer to tasks/WP most likely to publish) will also be made openly available via e-Infrastructure OpenAIRE²³ (DG CONNECT; request letters of support), predominantly relying on the Green Open Access strategy (self-archiving) for maximum return on investment for project and funder, and actively linked to underlying data objects, in support of the EC Open Data Pilot²⁴.

For longevity of knowledge transfer and best practice uptake beyond the project lifetime, The Project will cooperate with concurrent training initiatives within FP7 FOSTER²⁵ (DG Research) and OpenAIRE+, and incorporate Open Science training in any summer schools and research training workshops, to assure that the strategy is adopted by the next generation of young researchers (refer to WP7/tasks dealing with this).

Focus will be placed on demonstrating that Open Science and RRI are not only for societal and community benefit, but also directly support the career needs for impact, visibility and multiplying collaborations for individual researchers. Aiming the societal and research impact of knowledge generation can in the long-term bridge the gap between science and society.

¹⁴ EC Responsible Research & Innovation http://ec.europa.eu/research/science-society/document_library/pdf_06/responsible-research-and-innovation-infact_en.pdf

¹⁵ Archambault, E. et al. 2013. Proportion of OA Peer-Reviewed Papers at the European & World Levels 2004-2011 at http://www.science-metrics.com/pdf/3M_EC_OA_Availability_2014-2011.pdf

¹⁶ Houghton, J., Swan, A., Brown, S. 2011. Access to research and technical information in Denmark [WWW Document]. URL: http://www.defi.dk/uploads/media/Access_to_Research_and_Technical_Information_in_Denmark.pdf

¹⁷ EC Digital Agenda & Access to Knowledge <http://ec.europa.eu/digital-agenda/en/open-access-scientific-knowledge-0>

¹⁸ EC Green Action Plan for SMEs <http://ec.europa.eu/docs/press/documents/47004/achsewsm11/translation/en/medias/native>

¹⁹ Choose a discipline-specific permanent Data Repository from <http://www.rcfdata.org>

²⁰ Choose likely Data Journals of relevance: e.g. Nature Scientific Data, or search <http://doi.org>

²¹ NB: embargoes can be placed to allow project to publish exploit first, but consortium should aim for full release by end of contract, or justify why access needs to be restricted (publications may not be viewed favourably at review).

²² Choose a structured archive with minimum metadata requirements to allow maximum re-use e.g. GitHub, SourceForge, etc.

²³ EC FP7 and Horizon2020 funded e-Infrastructure <http://www.openaire.eu>, in support of EC Digital Agenda

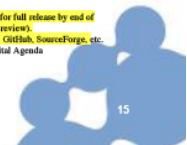
²⁴ EC Open Data Pilot http://ec.europa.eu/openaia/press-release_IP-13-1127_en.htm

²⁵ FP7 FOSTER: Facilitating Open Science in European Research (www.fosteropen-science.eu)



www.fosteropen-science.eu

www.openaire.eu



15



Open Science

Un poco más allá...



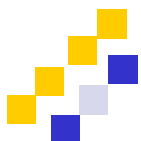
TDM: The Hague Declaration (2014)

- <http://thehaguedeclaration.com>
- *Access to Facts, Data and Ideas for Knowledge Discovery in the Digital Age*
- “Mover barreras legales para extraer el capital de los datos”



A panel of global experts drafted the Declaration. Now we'd like your comments.

Image by LIBER Europe, CC-BY



¿Qué implicará la Open Science en 2030?

https://ec.europa.eu/research/swafs/pdf/pub_open_science/open_science_2030.pdf



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR RESEARCH & INNOVATION
Directorate A – Policy Development and Coordination
A.6- Science Policy and Foresight



Open Science 2030

A Day in the Life of a Scientist, AD 2030

The year is 2030. Open science has become a reality and is offering a whole range of new, unlimited opportunities for research and discovery worldwide. Scientists, citizens, publishers, research institutions, public and private research funders, students and education professionals as well as companies and citizens from around the globe are sharing an open, virtual research environment, called the Lab.

Open source communities and scientists, publishing companies and the high-tech industry have pushed the EU and UNESCO to develop common open research standards, establishing a virtual learning gateway, offering free public access to all scientific data as well as to all publicly funded research.



Open Science



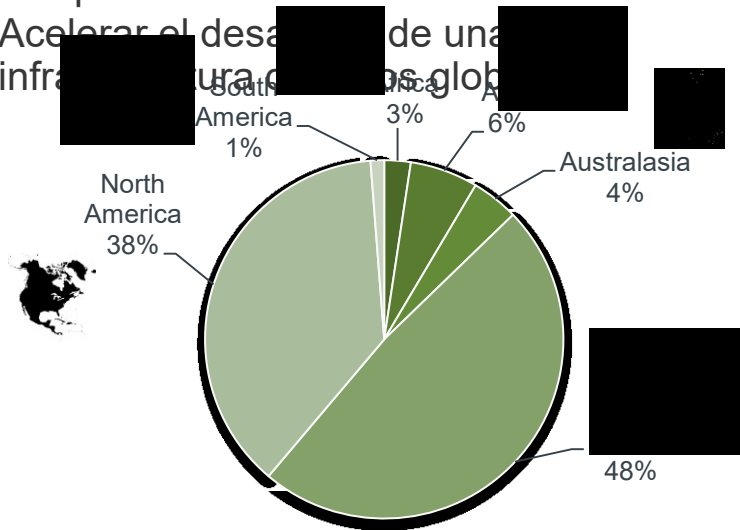
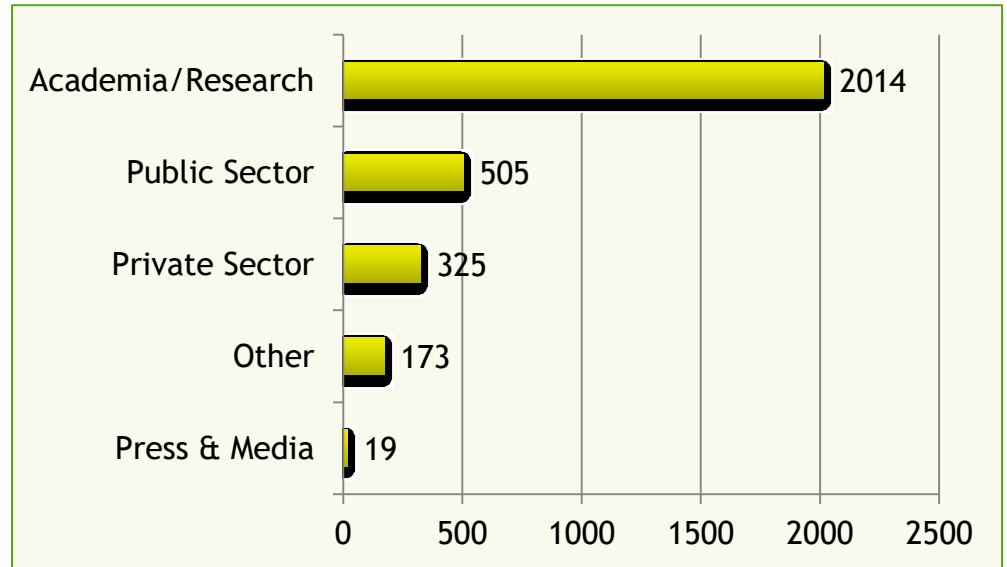
Un par de iniciativas

- ***RDA***
 - ***Maredata***
- 

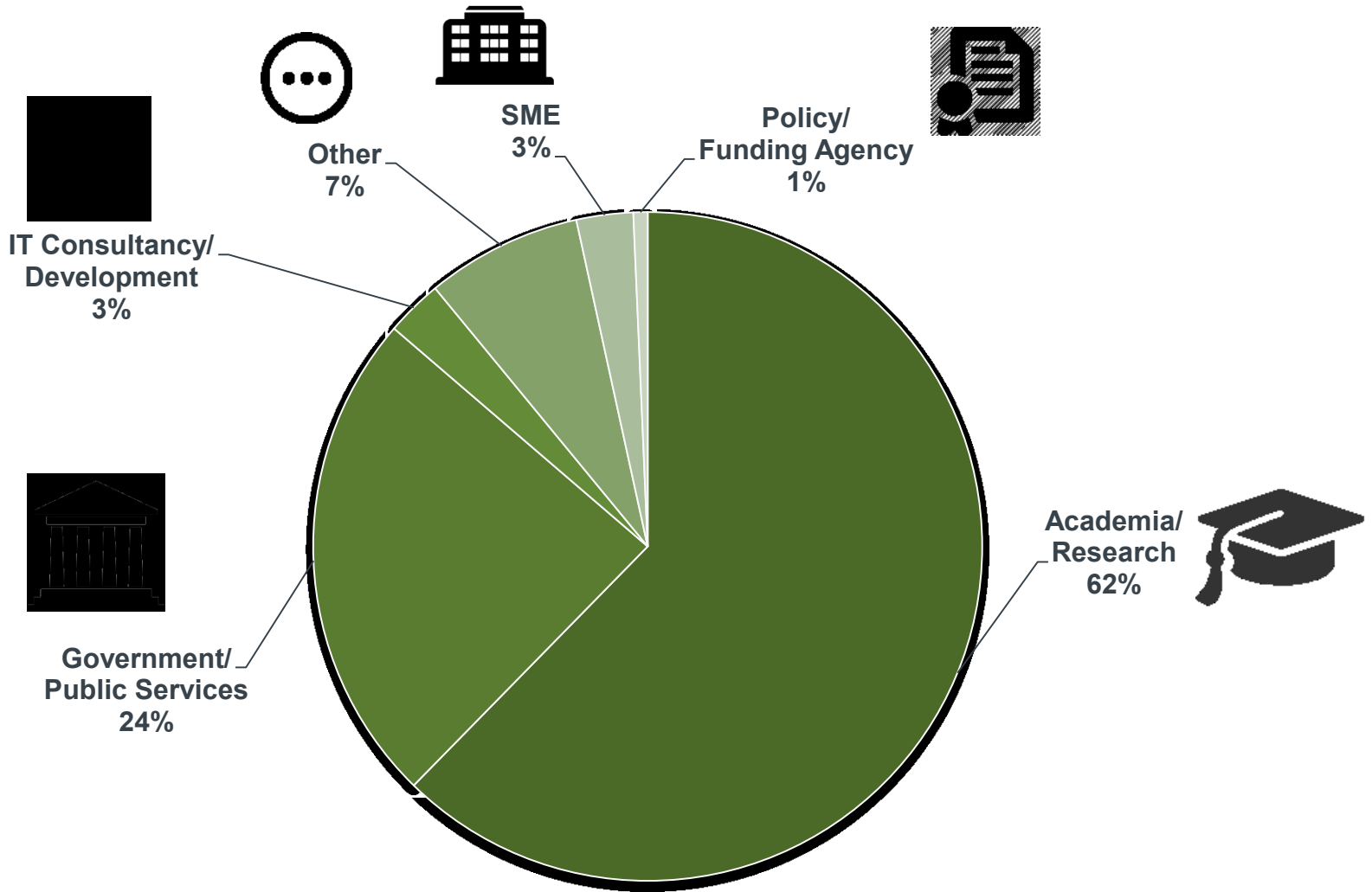
RDA (Nooooo Research Description and Access) :-O

Crear una infraestructura organizacional, técnica y social para:

- Reducir las barreras para que los datos de investigación se puedan compartir e intercambiar
- Acelerar el desarrollo de una infraestructura global



Composición



RDA: Organización (2015)

RDA Membership

Working Groups (17 as of June 2015)

Self formed & responsible for impactful, outcome-oriented efforts

Interest Groups (41 as of June 2015)

Self formed & responsible for defining and refining common issues

Technical Advisory Board

Responsible for Technical roadmap and perspective

Secretary-General and Secretariat

Responsible for administration and operations

Organizational Advisory Board and Organizational Assembly

Responsible for organizational adoption and strategic advice

RDA Council

Responsible for overarching mission, vision, impact of RDA

RDA Funders Forum

Support for RDA Organization and Community

(Currently NSF, NIST, Sloan Foundation, European Commission, Australian Government)

<http://www.maredata.net>

MareData



Red Española sobre Datos de Investigación en Abierto



@maredataprotect

#maredata



Pre-evento IODC Maredata [Materiales disponibles]

Oct 21, 2016

Ya están disponibles los vídeos y presentaciones de la sesión del pasado 5 de octubre en IODC. Modera y presenta: Eva Méndez (@evamen) miembro de la Red Temática Maredata. [Video] Datos abiertos de investigación: algunas preposiciones. Ernest Abadal, coordinador...



Pre-evento IODC: Workshop on open data and language processing technologies [Material disponible]

Oct 19, 2016

El pasado día 5 de octubre Maredata estuvo en el Pre-evento del IODC Workshop on open data and language processing technologies: An opportunity not to be missed. El objetivo de este taller fue abordar las oportunidades que representan los datos lingüísticos abiertos...



Presentación disponible del taller en el XV Workshop de REBIUN: ¿Qué

Ponentes del pre-evento IODC-MAREDATA

Sep 22, 2016

A continuación presentamos brevemente los ponentes del pre-evento IODC. Ernest Abadal. Es catedrático de la Facultat de Biblioteconomia i Documentació de la Universitat de Barcelona. Licenciado en Filosofía, diplomado en Biblioteconomia y Documentación y doctor en...

TWITTER MAREDATA

Tweets sobre maredata

Eva Méndez retwiteó

maredata @maredataprotect

La agenda de la red Maredata en la #OAWeek2016 MAREDATA IN ACTION bit.ly/2emsfbb @reme_melero @evamen Antonia Ferrer @abadal

21h

Alexandre Lopez retwiteó

maredata @maredataprotect

La agenda de la red Maredata en la #OAWeek2016 MAREDATA IN ACTION bit.ly/2emsfbb @reme_melero @evamen Antonia Ferrer @abadal

21h

Insertar Ver en Twitter



Open Science



¿Y tú?

Acciones!!!



Entonces... ¿por qué Open Science?

- ✓ Mayor visibilidad e impacto (autores y proyectos)
- ✓ Convierte la investigación en interconectada
- ✓ La investigación interconectada genera “*serendipity*” (siempre)
- ✓ Aumenta la velocidad de la innovación y descubrimiento, lleva ideas al mercado y soluciones a retos sociales
- ✓ Se puede acceder a la bibliografía pertinente - no detrás de barreras de pago
- ✓ Asegurar que las investigaciones es transparente y reproducible
- ✓ Genera nuevas colaboraciones/asociaciones en investigación
- ✓ Asegurar el acceso a largo plazo a los resultados de investigación
- ✓ Ayudar a aumentar la eficiencia de la investigación
- ✓ Contribuye directamente al crecimiento económico !!!

REPRODUCIBILITY !!!



Entonces... ¿por qué Open Science?



“Motivadores de la voluntad”





And you? What are you going to do?



Introduction video Conference Open Science 4- 5 april 2016
(Dutch Presidency EU2016)

<https://www.youtube.com/watch?v=C9a3Ap3yyak>





UNIVERSIDAD DE EXTREMADURA

¡¡Gracias!!



emendez@bib.uc3m.es

@evamen



Preguntas / Debate



Thanks to my friends of FOSTER project, for some slides and inspiration (specially: Sarah Jones, Ivo Grigorov).

<https://www.fosteropenscience.eu>

